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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,144	09/24/2003	Masahiro Imamura	031160	3827

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EXAMINER

ESTREMSKY, SHERRY LYNN

ART UNIT	PAPER NUMBER
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3681

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/668,144

Applicant(s)

IMAMURA, MASAHIRO

Examiner

Sherry L Estremsky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9-24-03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The abstract of the disclosure is objected to because "means" is used in the second line. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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In claim 1, lines 17-18, "the casing" is indefinite because it lacks antecedent basis.

Claim 1 appears to be incomplete because it ends with a semi-colon, suggesting further limitations are intended to be covered by the claim.

Claim 6 appears to be incorrectly claiming a second casing (line 3) in addition to the casing already claimed in claim 1.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 (to the extent known) and 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Krisher et al., U. S. Patent 4,862,363.

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Krisher et al. shows in figure 1 a power transfer apparatus 10 provided between an input shaft 11 and an output shaft 12 for selectively changing the speed of the output shaft relative to the speed of the input shaft (column 2, lines 8-10).

Clutch 18 has an inner hub fixed to the input shaft 11, a clutch guide (connected to carrier 17), a plurality of clutch discs attached to the clutch inner hub, a plurality of clutch plates attached to the clutch guide so as to be disposed alternately with the clutch discs, a clutch piston (shown as attached to carrier 17, moved by springs 19; column 2, lines 25-26), and biasing unit 19 for biasing the piston in a direction in which the clutch discs engage with the clutch plates (column 2, lines 25-27).

Transmission brake 22 is serially disposed in an axial direction of the clutch and has a brake inner hub (connected to carrier 17) coupled with the clutch piston at one end thereof (the carrier 17, the clutch guide, the brake inner hub, and the piston are all shown to be interconnected), a plurality of brake discs coupled with the brake inner hub, and a plurality of brake plates coupled with the casing in such a manner as to be disposed alternately with the brake discs.

Actuator 20/21 is serially disposed in an axial direction of the transmission brake for disengaging the clutch 18 against the force of the biasing unit 19 at the same time of activating the transmission brake 22 (column 2, lines 33-38).

A planetary carrier sub-assembly is serially disposed in the axial direction of the clutch 18 and has a planetary carrier 17 rotatably disposed around the input shaft 11 and the output shaft 12 and coupled with the clutch guide (and brake hub and piston), a first pinion gear rotatably carried on the planetary carrier 17, a second pinion gear having the number of teeth which is different from that of the first pinion gear (to provide an overdrive, column 2, lines 40-42), a first sun gear 14 fixed to the input shaft 11 and meshing with the first pinion gear, and a second sun gear 15 fixed to the output shaft 12 and meshing with the second pinion gear.
(claim 1)

The first and second pinion gears are formed integrally as one compound planet gear 16.
(claim 4)

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The input shaft 11 and output shaft 12 are coaxially disposed (column 2, lines 9-11).
(claim 5)

A casing 13 accommodates at least a portion of the input shaft 11, at least a portion of the output shaft 12, the clutch 18, the transmission brake 22, the actuator 20/21, and the planetary carrier sub-assembly (column 2, lines 8-11).
(claim 6)

An oil pump sub-assembly 23 is included for activating the actuator (column 2, lines 43-45).
(claim 7)

7. Claims 1 and 4-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Mori et al., U. S. Patent 6,790,152.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Mori et al. shows in figure 3 a power transfer apparatus C provided between an input shaft 19 and an output shaft 29 for selectively changing the speed of the output shaft relative to the speed of the input shaft (column 5, lines 9-13).

Clutch 30 has an inner hub fixed to the input shaft 19, a clutch guide (inner surface of element 46), a plurality of clutch discs 32 attached to the clutch inner hub, a plurality of clutch

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plates 34 attached to the clutch guide so as to be disposed alternately with the clutch discs (column 5, line 66- column 6, line 8), a clutch piston 33, and biasing unit 48 for biasing the piston 33 in a direction in which the clutch discs engage with the clutch plates (column 6, line 65- column 7, line 4).

Transmission brake 50 is serially disposed in an axial direction of the clutch and has a brake inner hub (outer surface of element 46) coupled with the clutch piston 33 at one end thereof, a plurality of brake discs 53 coupled with the brake inner hub, and a plurality of brake plates 52 coupled with the casing B in such a manner as to be disposed alternately with the brake discs (column 6, lines 13-22).

Actuator E is serially disposed in an axial direction of the transmission brake 50 for disengaging the clutch 30 against the force of the biasing unit 48 at the same time of activating the transmission brake 50 (column 7, lines 32-67).

A planetary carrier sub-assembly is serially disposed in the axial direction of the clutch 30 and has a planetary carrier 61 rotatably disposed around the input shaft 19 and the output shaft 29 and coupled with the clutch guide (via spline "gear" connection 47), a first pinion gear 42 rotatably carried on the planetary carrier 61, a second pinion gear 43 having the number of teeth which is different from that of the first pinion gear (to provide a speed-change, column 6, lines 32-48), a first sun gear 41 fixed to the input shaft 19 and meshing with the first pinion gear 42, and a second sun gear 44 fixed to the output shaft 29 and meshing with the second pinion gear 43.

(claim 1)

The first and second pinion gears 42 and 43 are formed integrally (column 6, lines 33-34).

(claim 4)

The input shaft 19 and output shaft 29 are coaxially disposed (column 5, lines 13-14).

(claim 5)

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A casing B accommodates at least a portion of the input shaft 19, at least a portion of the output shaft 29, the clutch 30, the transmission brake 50, the actuator E, and the planetary carrier sub-assembly (column 5, lines 9-17).

(claim 6)

(It is noted that in figure 3, an oil pump sub-assembly appears to be serially disposed in the axial direction of the output shaft 29, though this is not described in the specification.)

Allowable Subject Matter

8. Claims 2, 3, and 8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U. S. Patent 1,674,557 (Maybach) June 1928 - discloses a power transfer apparatus including a carrier carrying integrated pinion gears which mesh with an input sun gear and an output sun gear. One actuator selectively engages a clutch which couples the carrier to the input, or engages a brake for the carrier.

U. S. Patent 3,561,291 (Webster et al.) February 1971 - discloses a power transfer apparatus with coaxially aligned input and output shafts, a planetary gear set having an input sun gear, an output

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sun gear, and integrated pinions on a carrier meshing with the sun gears, a clutch between the input shaft and the carrier with a piston and a biasing unit to bias the clutch to be engaged, a brake serially and coaxially aligned with the clutch, and an actuator which simultaneously engages the brake while disengaging the clutch against the biasing unit. An oil pump sub-assembly is disposed serially and coaxially with the power transfer apparatus, but not in the direction of the output shaft. The apparatus does not include a plurality of brake discs and plates, nor a brake inner hub coupled with the clutch piston.

U. S. Patent 4,290,322 (Huitema) September 1981 - figure 4 appears to disclose a power transfer apparatus with an input sun gear, an output sun gear, and a carrier carrying integrated pinions meshing with the sun gears, a clutch between the carrier and input being engaged when a brake for the carrier is disengaged, and vice versa.

U. S. Patent 4,567,788 (Miller) February 1986 and U. S. Patent 4,774,857 (Heine et al.) October 1988 -

each discloses a power transfer apparatus with coaxially aligned input and output shafts, a planetary gear set having an input sun gear, an output sun gear, and integrated pinions on a carrier meshing with the sun gears, a clutch between the input shaft and the carrier with a piston and a biasing unit to bias the clutch to be engaged, a brake coaxially aligned with the clutch, and an actuator which simultaneously engages the brake while disengaging the clutch against the biasing unit.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sherry L Estremsky whose telephone number is (703) 308-2164. The examiner can normally be reached on Tuesday and Friday from 7:30 a.m. to 6:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on (703) 308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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SHERRY ESTREMSKY
PRIMARY EXAMINER
AV3681 11-12-04